

1. (Twice Amended) A method of expressing a therapeutic agent in a human, comprising:

administering autologous CD34+ cells obtained from cord blood to said human, said autologous CD34+ cells having been genetically engineered to include at least one nucleic acid sequence encoding [a therapeutic agent.] adenosine deaminase

2. The method of Claim 1 wherein said at least one nucleic acid sequence is contained in a viral vector.

3. The method of Claim 2 wherein said viral vector is a retroviral vector.

4. Cancelled.

5. The method of Claim 1 wherein said CD34+ cells are administered in an amount of from about $5 \times 10^5/\text{kg}$ to about $10 \times 10^7/\text{kg}$.

6. (Previously amended) A method of treating a human patient suffering from severe combined immune deficiency resulting from adenosine deaminase deficiency, comprising:

administering autologous CD34+ cells obtained from cord blood to said patient, said autologous CD34+ cells having been genetically engineered to include a nucleic acid sequence encoding adenosine deaminase, said autologous CD34+ cells being administered to said patient in an amount effective to treat said severe combined immune deficiency resulting from adenosine deaminase deficiency in said patient by providing said patient with an effective amount of said adenosine deaminase by expression of said nucleic acid sequence encoding adenosine deaminase in said patient.

7. (Original) The method of Claim 6 wherein said nucleic acid sequence encoding adenosine deaminase is contained in a viral vector.

8. (Original) The method of Claim 7 wherein said viral vector is a retroviral vector.

9. (Original) The method of Claim 6 wherein said CD34+ cells are administered in an amount of from about $5 \times 10^5/\text{kg}$ to about $10 \times 10^7/\text{kg}$.

10. (Original) The method of Claim 6 wherein said patient is a newborn infant and said CD34+ cells are obtained from the cord blood of said newborn infant.

11. (Previously amended) A method of treating an infant suffering from severe combined immune deficiency resulting from adenosine deaminase deficiency, comprising:

obtaining cord blood from said infant;

separating CD34+ cells from said cord blood;

cultivating said CD34+ cells obtained from said cord blood in the presence of (i) Interleukin-3; (ii) Interleukin-6; and (iii) a c-kit ligand;

transfecting said CD34+ cells with a nucleic acid sequence encoding adenosine deaminase; and

administering to said infant said transfected CD34+ cells, said CD34+ cells being administered to said infant in an amount effective to treat severe combined immune deficiency resulting from adenosine deaminase deficiency in said infant by providing said infant with an effective amount of said adenosine deaminase by expression of said nucleic acid sequence encoding adenosine deaminase in said infant.

12. (Original) The method of Claim 11 wherein said nucleic acid sequence encoding adenosine deaminase is contained in a viral vector.

13. (Original) The method of Claim 12 wherein said viral vector is a retroviral vector.

14. (Original) The method of Claim 11 wherein said CD34+ cells are administered in an amount of from about $5 \times 10^5/\text{kg}$ to about $10 \times 10^7/\text{kg}$.

15. (Original) The method of Claim 11 wherein said patient is a newborn infant and said CD34+ cells are obtained from the cord blood of said newborn infant.

Claims 16-20 have been cancelled.

21. (Original) The method of Claim 5 wherein said CD34+ cells are administered in an amount of from about $5 \times 10^5/\text{kg}$ to about $1 \times 10^7/\text{kg}$.

22. (Original) The method of Claim 21 wherein said CD34+ cells are administered in an amount of from about $5 \times 10^5/\text{kg}$ to about $5 \times 10^6/\text{kg}$.

Claims 23-25 have been cancelled.